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From Marrakesh to Glasgow: Looking Backward to Move Forward on Emissions Trading

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Abstract

The Paris Rulebook—nearly complete, but with the 'markets' text tied to Article 6 of the Paris Agreement unadopted after nearly three years—invites comparison with a similar effort under the Kyoto Protocol: the Marrakesh Accords. This article compares the Paris Rulebook and the 2001 Marrakesh Accords implementing the Kyoto Protocol as a way of exploring the similarities and differences in regulatory design between the two sub-regimes and their implications for sustainability and climate integrity. An in-depth analysis of the negotiating history and the text of the two instruments yields trenchant and perhaps unexpected conclusions. Issues that plagued the Marrakesh Accords also appear in similar form in the Paris Rulebook discussions around Article 6; however, because of the difference in structure between the two treaties, even more complex issues have arisen in the Rulebook negotiations. The article reflects on the fundamentally different purpose of the 'markets' text in the Rulebook in comparison with its Kyoto/Marrakesh precursor, as well as on the implications of those differences for the Article 6 negotiations.

Keywords

Paris Agreement, Article 6; Paris Rulebook; Kyoto Protocol; Marrakesh Accords; market/trading/flexibility mechanisms.

* Member of the Kyoto Protocol's Compliance Committee (Facilitative Branch) and member of the UNFCCC's Expert Peer Review Group of the Race to Zero Campaign. The author served as the legal advisor to the Bahamas in the Paris Agreement negotiations in 2014 and 2015. The views expressed here are those of the author alone.
** The author served as Legal Expert to the State Secretary for Energy and Sustainable Development, Government of Belgium, in 2001, negotiating the Marrakesh Accords on behalf of the EU Presidency at COP 6 bis and COP 7. He gratefully acknowledges the assistance of Sherry Xin Chen with this article. Responsibility for all views expressed in this article is the author's own. The author's work on this project was supported by a generous research grant from the Boston College Law School Fund, when the author was a Dean's Fund Scholar. Portions of this project draw on the author's previously published writings. Moreover, this article occasionally draws on the author's direct experiences of the abovementioned COPs and on his notes taken while in attendance. In these instances, where the author himself is the direct source of the information, no additional source citations are given.

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1. Introduction

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Market mechanisms have been part of the climate regime for decades. Yet, the politics and economics of climate change have changed dramatically since those flexibility mechanisms were made part of the Kyoto Protocol. This article examines the role of trading mechanisms in the climate regime, and in particular how changing dynamics and treaty structures have affected negotiations around the mechanisms' rules.

Rules on the operation of market mechanisms were initially codified in the 2001 Marrakesh Accords,[1] which established the modalities, rules, and guidelines for emission trading under the Kyoto Protocol. The Protocol reflected what was then considered to be a traditional environmental treaty, with set emission-reduction targets, binding only on developed countries, monitored through a robust compliance mechanism to ensure that developed countries were faithful to their commitments. At the time, emission-trading mechanisms were a controversial innovation at the global level, and not all states were initially supportive of their inclusion.[2] Developing countries expected financial benefits to flow equitably from the projects of the Clean Development Mechanism to assist them with technology transfer and adaptation financing. The Kyoto Protocol world ended up being very different in practice. As is well known, the United States never ratified the treaty, many developing countries were disappointed by the operation of the CDM, Canada withdrew before the first commitment period ended, and the second commitment period set out in the Doha Amendment failed to engage much of a constituency beyond the European Union.

By the time the second commitment period came to an end at the end of 2020, the Kyoto regime was already more of a memory than an operative force, having been supplanted in policy discourse by a forward-looking perspective focused on the Paris Agreement. This Agreement was largely a reaction away from the perceived inadequacies of the prior regime. For instance, while the Enforcement Branch of the Compliance Committee continued to be active under the Kyoto Protocol, UNFCCC parties declined to incorporate that compliance model, consisting of a facilitative and enforcement branch, into the Paris Agreement.

Although the Paris Agreement permits the use of market mechanisms for mitigation purposes, the treaty represents a very different landscape from the Protocol, with binding, largely procedural, obligations of conduct and performance, but non-binding and differentiated emission-reduction trajectories for developed and developing countries, alongside a facilitative, advisory, and non-punitive compliance mechanism. Nationally Determined Contributions are self-differentiated. Despite these structural differences, the shadow of the Kyoto Protocol and the Marrakesh Accords still hovers over the Article 6 negotiations, as we will explain.

[1] The Marrakesh Accords are a group of draft decisions negotiated under the COP between 1997 and 2001, and adopted by CMP.1 held in Montreal in 2005: Kyoto Protocol, *Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its first session, held at Montreal from 28 November to 10 December 2005*, FCCC/KP/CMP/2005/8/Add.1 (2006).

[2] The Kyoto Protocol's flexibility mechanisms were included largely at the insistence of the United States; see Joanna Depledge, *Tracing the Origins of the Kyoto Protocol: An Article-by-Article Textual History*, FCCC/TP/2002/2 (2000), para. 166.

In this article we explore the similarities and differences in regulatory design between the Paris Rulebook and the Marrakesh Accords and their implications for sustainability and climate integrity. Specifically, the article examines the role of trading mechanisms in the climate regime, providing a historical perspective on the negotiations and content of the Marrakesh Accords to inform an evaluation of the current status of the Article 6 Rulebook negotiations. The analysis asks whether the changing dynamics and structure of the Paris Agreement adequately explain the roadblocks encountered during the Article 6 negotiations; and it offers lessons learned from the Marrakesh process to help parties navigate the Article 6 negotiations.

We begin by briefly reviewing market mechanisms in the UN climate regime, laying a foundation for the subsequent analysis. We then compare the Marrakesh Accords and the Paris Rulebook, with an eye to their relationship. We examine the dynamics of the negotiations on the draft text to implement Article 6 of the Paris Agreement, informed by prior experience with the Marrakesh Accords, in an attempt to explain the impediments that have plagued this remaining piece of the Rulebook puzzle. Last, the analysis assesses the two instruments—the Marrakesh Accords and the Paris Rulebook Article 6 draft texts—as illuminating the strengths and weaknesses of the two self-consciously divergent approaches.

2. Market Mechanisms and the UN Climate Regime

Market-based mechanisms have been around for a long time, and were initiated originally by non-state actors such as BP and Shell.[3] They are designed to lead to greater efficiency in environmental and energy policies by reducing the costs of implementing and complying with environmental measures, and so incentivizing technological change.[4] An effective international emission-trading system relies on ambitious and binding emission targets to ensure that the permits are scarce, and therefore that the trading of permits will generate revenue and incentivize emission reductions.[5] It also requires accurate reporting and a well-designed compliance mechanism to monitor, track, and verify emission reductions and transfers, and to compel state compliance with the regime.[6]

Trading was included in Article 17 of the Kyoto Protocol as one of the flexibility mechanisms to help Annex I parties to meet their emission-reduction targets. The Protocol's trading mechanism was the inspiration for the EU ETS—now one of the most mature and integrated emission-trading systems in the world.

The agreement of rules around Article 6 of the Paris Agreement will be critical to the success of a global emission-trading system. The level of ambition integrated into the

[3] David G. Victor and Joshua C. House, 'BP's Emission Trading System', 34(15) *Energy Policy* 2100 (2006), 2103.
[4] David Pearce, 'The Political Economy of an Energy Tax: The United Kingdom's Climate Change Levy', 28(2) *Energy Economics* 149 (2006), 149.
[5] Lisa Benjamin, *Companies and Climate Change: Theory and Law in the United Kingdom* (Cambridge, UK: Cambridge University Press, 2021), 132.
[6] Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures* (Cambridge, UK: Cambridge University Press, 2004), 156.

design of the rules around Article 6 could make or break the achievement of the global warming limitation goals, and therefore the success of the Paris Agreement itself.[7] Issues of ambition and governance are at stake in the Article 6 negotiations. If not well-designed, the Article 6 rules could undermine the ambition of parties' NDCs.

As a direct descendent of the UNFCCC, the Kyoto Protocol reflects a strict binary approach to states.[8] The UNFCCC's post-Cold War context of profound divisions between superpowers and post-colonial states[9] led to the Annex I/non-Annex I division in the treaty. Article 4.2 of the UNFCCC stipulates that Annex I parties will take the lead in emission reductions, and the Berlin Mandate (the political agreement that served as a mandate for negotiation of the Kyoto Protocol) made it clear that no new commitments would be imposed on non-Annex I parties.[10]

The Kyoto Protocol mechanism established patterns and expectations that may or may not be reflected in the Article 6 mechanisms. These include that emission trading is designed to be supplemental to parties' domestic emission cuts. In hindsight, the Kyoto Protocol made very limited demands on Annex I parties to reduce emissions.[11] They were given significant flexibility to determine their desired emission reductions. They agreed to make, on average, a 5 per cent reduction below 1990 levels over the first commitment period (2008-2012). Compared to the net-zero and other national targets being contemplated less than a decade later in NDCs, the original Protocol targets appear conservative, at best, in their lack of ambition, notwithstanding that some countries struggled to achieve them. Annex I parties 'agreed' their targets under the Protocol by proposing their own commitments. They were submitted and negotiated in a process similar to the 'bottom up' structure of the Paris Agreement, with parties 'self-differentiating' based on their national circumstances. The Kyoto Protocol, moreover, was a first cut, or a 'shot across the bow', in addressing the global challenge of climate integrity, designed in part as a conceptual model for future, more ambitious, undertakings, including ones that could be extended to non-Annex I parties.

Because the design and eventual implementation of the Kyoto Protocol is instructive for the Article 6 negotiations, the next section focuses on the process, drafting, roadblocks, and outcomes of the Marrakesh process, as well as on the Article 6 negotiations.

[7] Noah Sachs notes the Paris Agreement's already fragile architecture: 'The Paris Agreement in the 2020s: Breakdown or Breakup?', 46(3) *Ecology Law Quarterly* 865 (2019), 872 ('The nonbinding nature of NDCs has several consequences that make the Paris Agreement fragile and prone to defections').
[8] This all-or-nothing structure, going back to the 1992 UNFCCC, is something of an 'original sin' that continues to hobble the UN climate negotiations even now. Article 3(1) of the UNFCCC itself articulates the need for '*common* but differentiated responsibilities' (emphasis supplied). A comparison to the Montreal Protocol on Substances that Deplete the Ozone Layer, which gave low-consuming parties an extended compliance period but engaged all parties in the common enterprise of protecting the stratospheric ozone layer, is informative; see David A. Wirth and Daniel A. Lashof, 'Beyond Vienna and Montreal: Multilateral Agreements on Greenhouse Gases', 19(6/7) *Ambio* 305 (1990).
[9] Maria Jernnäs and Björn-Ola Linnér, 'A Discursive Cartography of Nationally Determined Contributions to the Paris Climate Agreement', 55 *Global Environmental Change* 73 (2019).
[10] UNFCCC, Decision 1/CP.1, *The Berlin Mandate: Review of the adequacy of Article 4, paragraph 2(a) and (b), of the Convention, including proposals related to a protocol and decisions on follow-up*, FCCC/CP/1995/7/Add.1 (1995), para. 2(a)-(b).
[11] Bradley C. Parks and J. Timmons Roberts, 'Climate Change, Social Theory and Justice', 27(2) *Theory, Culture and Society* 134 (2010), 135.

3. Implementing the Kyoto Protocol and the Paris Agreement

Despite the complexity and length of negotiations leading to the final treaty, both the Kyoto Protocol and the Paris Agreement were understood at the time of their adoption to represent the skeletal outlines of regimes that required further elaboration. Consequently, work on what became the Marrakesh Accords and the Paris Rulebook began almost immediately; indeed, it was anticipated in the mandates accompanying both treaties' adoption. In both cases, it was anticipated that the elaboration mechanisms would be COP decisions, which would be at least in a formal sense non-binding. The subsequent trajectories for each of these instruments further amplifies and elucidates the divergences in regulatory design between the Protocol and the Paris Agreement.[12]

3.1. The Marrakesh Accords

Given the Kyoto Protocol's complex structure, the establishment of a multilaterally standardized accounting system was essential to its implementation. Indeed, accounting for emissions in a manner not too dissimilar to the financial equivalent can be viewed as the central challenge of the Protocol's implementation.[13] But unlike currencies, whose content is fixed, knowable, countable, and consequently tradable, standards for measuring and accounting for greenhouse gas emissions had to be established from scratch.

It is all too easy to forget the tenuous situation of the Kyoto Protocol at that early stage. COP 6 had concluded in November 2000 with a lengthy, heavily bracketed text reflecting considerable remaining disagreement on the major issues relating to the rules for implementing the Kyoto Protocol.[14] In March 2001 the United States announced its decision not to ratify the Kyoto Protocol, threatening not only US participation in the Kyoto regime but also the Protocol's entry into force.

Nowhere was the challenge in negotiating the implementation of the Protocol more apparent than in the trading mechanisms: Articles 6 (Joint Implementation), 12 (CDM), and 17 (trading of Assigned Amount Units).[15] The negotiation of the Marrakesh Accords revealed the multiple junctures at which the cogs in the Kyoto machine could encounter friction, or potentially seize up altogether.[16] So, for example, emissions

[12] David A. Wirth, 'The Paris Agreement as a New Component of the UN Climate Regime', 12(4) *International Organisations Research Journal* 185 (2017).
[13] Daniel Bodansky, 'Bonn Voyage: Kyoto's Uncertain Revival', *The National Interest*, 1 September 2001, 44-5.
[14] UNFCCC, *Report of the Conference of the Parties on the First Part of its Sixth Session, Held at the Hague from 13 to 25 November 2000*, FCCC/CP/2000/5/Add.3 (vol. V) (2001).
[15] See, generally, Matthew Vespa, 'Climate Change 2001: Kyoto at Bonn and Marrakech', 29(2) *Ecology Law Quarterly* 395 (2002).
[16] On the negotiations of the Marrakesh Accords, see David A. Wirth, 'The Sixth Session (Part Two) and Seventh Session of the Conference of the Parties to the Framework Convention on Climate Change', 96(3) *American Journal of International Law* 648 (2002); Karsten Nowrot, 'Saving the International Legal Regime on Climate Change: The 2001 Conferences of Bonn and Marrakesh', 44 *German Yearbook of International Law* 396 (2001); and Emily Boyd and Emma Lisa Schipper, 'The Marrakech Accord—At the Crossroad to Ratification: Seventh Conference of the Parties to the United Nations Framework Convention on Climate Change', 11(2) *Journal of Environment and Development*, 184 (2002).

across the six gases had to be scaled for comparability through reduction to a common metric of CO_2 equivalents—a relatively non-controversial task, relying on global warming potentials established by the IPCC.

At a greater level of complexity, reliable emission data were required, including for the base year of 1990 (against which further obligatory national reductions would be measured) and for determining the entry into force of the Protocol (by reference to an aggregate amount of 1990 emissions of ratifying parties). Emission data had to be gathered from widely disparate sectors, such as power plants, manufacturing facilities, and motor vehicles. An immense virtual ledger needed to be imagined, in which baselines, emissions, emission reductions, and trades could be inscribed and audited.

By contrast with the relative availability and reliability of data from the industrial sectors, the burning of forest, whether purposeful or accidental, was perceived as emblematic of the obstacles presented by the land use, land-use change, and forestry sector. Similarly, emissions from agriculture, such as from rice cultivation, but also from soils themselves, seemed to be invitations to uncertainty, and consequently to potential abuse, whether intentionally or through technical limitations. Credits for sinks, such as afforestation efforts, were particularly controversial. Comparability needed to be established across all three of the flexibility mechanisms to assure tradability in emission allowances.

The CDM by its very structure created leakage from the closed system of Annex I parties with emission-reduction obligations. The requirement of 'additionality' loomed large as a potential weak link in the system, a concern that has proved to be prescient as we shall see below. There was great concern for the vigor of compliance procedures[17] as linked to the integrity of the reporting and accounting essential to the Kyoto Protocol's functioning.[18] Some concerns drifted toward the philosophical, as in the discussion over whether access to the mechanisms ought to be unburdened and be broadly accessible, or limited to an ancillary tool to ensure compliance at the margins.

The final 'crunch' issues and their resolution give an insight into questions that the negotiators considered of the highest priority in the Marrakesh Accords. For instance, nuclear power installations in the end were excluded from the JI scheme[19] and the CDM.[20] The 'commitment period reserve'—a constraint on 'supplementarity' designed to discourage over-reliance on trading to meet reduction targets—was set at 90 per cent of a party's 1990 baseline emissions, or 100 per cent of the level of the most recent

[17] René Lefeber, 'From the Hague to Bonn to Marrakesh and Beyond: A Negotiating History of the Compliance Regime under the Kyoto Protocol', 14 *Hague Yearbook of International Law* 25 (2001).
[18] See, generally, Olav Schram Stokke, Jon Hovi, and Geir Ulfstein, *Implementing the Climate Regime: International Compliance* (London: Earthscan, 2005).
[19] UNFCCC, Decision 16/CP.7, *Guidelines for the implementation of Article 6 of the Kyoto Protocol*, FCCC/CP/CMP/2001/13/Add.2 (2002), Preamble, para. 4: 'Parties included in Annex I are to refrain from using emission reduction units generated from nuclear facilities to meet their commitments under Article 3, paragraph 1 [of the Protocol]'.
[20] UNFCCC, Decision 17/CP.7, *Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol*, FCCC/CP/CMP/2001/13/Add.2 (2002), Preamble, para. 5: 'Parties included in Annex I are to refrain from using certified emission reductions generated from nuclear facilities to meet their commitments under Article 3, paragraph 1 [of the Protocol]'.

emission inventory, whichever is lower. This provision was a proxy for concern about the treatment of 'hot air' from states such as those of the former USSR, which during the *perestroika* period experienced artificially premature reductions that would be available for sale as credits.

Sinks generated a number of compromises. They are controversial as to their definition and character. For example, they may be counted against a party's emission-reduction target provided that the activities are 'human-induced' and have occurred since 1990. But sinks are mutable. For example, agricultural and forestry practices can change considerably, therefore changing their sequestration properties. States agreed that agricultural practices could produce emission credits only to the extent that the net effect is to sequester more carbon. Forest management (e.g. conservation of existing forests) was made subject to a global limitation of about 83 Mt of carbon per year, apportioned by formula among Annex B countries (excluding the United States).[21]

In the CDM, a compromise confined LULUCF projects eligible for credits during the first commitment period to afforestation and reforestation. It limited net credits earned for these activities to no more than 1 per cent of a party's base-year emissions.[22] The parties delegated the responsibility to elaborate further accounting methodologies for this category to the SBSTA. At the Marrakesh meeting, the Russian Federation, having noted the absolute necessity of its ratification for the Protocol's entry into force following the US announcement of non-ratification, successfully negotiated an increase in its ceiling for forest-management credits. This exception allowed it to roughly double what the earlier negotiations had allocated it,[23] illustrating the many loopholes, exceptions, and complexity contained in the Marrakesh negotiations, which would later also plague the Article 6 negotiations.

The use of tradable permits in the Kyoto Protocol was introduced to moderate the rigidity of the targets, but permit allocations within the domestic jurisdictions were often made at no cost, in order to 'buy acceptance' of industry of the new cap-and-trade regime.[24] The 'grandfathering in' of existing pollution levels through the free allocation of permits effectively froze the status quo of emissions during the first commitment period. The low level of ambition in the international carbon market led to an oversupply of international carbon credits, which, combined with economic and political developments in economies in transition, and flexibilities requested by some EITs, kept the price of carbon at very low levels.[25] The Kyoto Protocol facilitated the inclusion of hot air by allowing parties, particularly EITs, to overestimate their

[21] Kyoto Protocol, Decision 16/CMP.1, *Land use, land use change and forestry*, FCCC/KP/CMP/2005/8/Add.3 (2006), Annex, para. 11.
[22] Ibid., para. 14.
[23] Ibid., para. 11 and Appendix note c: 'This figure [containing the allocation to the Russian Federation] is changed from 17.63 [in the earlier Bonn Accords which concluded COP 6bis] to 33.00 by decision 12/CP.7 [i.e. the final Marrakesh Accords]'.
[24] Judith Rees, 'Markets: The Panacea for Environmental Regulation?', 23(3) *Geoforum* 383 (1992), 391. The US proposal for the Berlin Mandate and the Kyoto Protocol was modeled on its domestic system of tradeable emissions rights for sulfur dioxide.
[25] Sampo Seppänen, et al., *Demand in a Fragmented Global Carbon Market: Outlook and Policy Options*, Nordic Council of Ministers (2013), 44, <http://norden.diva-portal.org/smash/get/diva2:702582/FULLTEXT01.pdf>.

emissions way above business as usual.[26] These gaps and oversights were a combination of design flaws, as well as unanticipated economic developments—unfortunately, many of the same issues plague the Article 6 negotiations.

Despite the design weaknesses, all the matters negotiated during the Marrakesh Accords boil down to rules that, but for the items being counted, would be reasonably familiar to a tax accountant; which sheds a great deal of light on the negotiators' view of the final product. Whether motivated by issues of principle or national interest, the portions of the Marrakesh Accords dealing with the trading mechanisms are all framed in the form of, literally, operative instructions as to how to count. It was crystal clear to everyone participating in the negotiations what a great effort was involved in articulating those rules—more than 200 pages of them, every comma agreed by consensus—with the greatest precision and specificity possible.[27]

3.2. The Paris Rulebook

The structure of the Paris Agreement reflects very different emission levels and political economies around climate change than existed in the UNFCCC and Kyoto Protocol worlds. The G77 and China is a more diversified and stratified group than it was during the Protocol negotiations, and global climate governance has become increasingly hybridized since the Protocol.[28] The negotiation roadmap in the lead-up to the Paris Agreement reflects this changing world. The Durban Mandate provided states with various options, including a variety of legal forms, that the new agreement could take.[29] The United States was one of the main drivers of this hybrid approach, jettisoning a binding legal protocol, a third commitment under the Kyoto Protocol, or an amendment to the UNFCCC, in favour of an approach that would be more palatable to it.[30]

The United States made it clear that a bottom-up approach could include a mixture of both legally binding commitments and non-binding statements within one legal text.[31] The US-China Joint Agreement in November of 2014 was critical in articulating an amended principle of differentiation, being common but differentiated responsibility and respective capacity with the addition of evolving national circumstances.[32] This added a level of dynamism to what had otherwise become a strict and stultified principle under the Kyoto Protocol, evidenced through its Annexes. The modified

[26] Toon Vandyck, et al., 'A Global Stocktake of the Paris Pledges: Implications for Energy Systems and Economy', 41 *Global Environmental Change* 46 (2016), 47.
[27] Suraje Dessai and Emma Lisa Schipper, 'The Marrakech Accords to the Kyoto Protocol: Analysis and Future Prospects', 13(2) *Global Environmental Change* 149 (2003).
[28] Jernnäs and Linner, supra note 9, at 581.
[29] The outcome of the negotiations launched at Durban could take the form of 'a protocol, another legal instrument or an agreement outcome with legal force under the Convention applicable to all parties': UNFCCC, Decision 1/CP.17, *Establishment of an Ad Hoc Working Group on the Durban action Platform for Enhanced Action*, FCCC/CP/2011/9/Add.1 (2012), para. 2.
[30] David A. Wirth, 'Cracking the American Climate Negotiators' Hidden Code: United States Law and the Paris Agreement', 6(1/2) *Climate Law* 152 (2016), 155.
[31] Ibid., 156.
[32] US-China Joint Presidential Statement on Climate Change, 25 September 2015, Office of the Press Secretary of the White House, <https://obamawhitehouse.archives.gov/the-press-office/2015/09/25/us-china-joint-presidential-statement-climate-change>.

principle lent a context-specific quality to differentiation, which was subsequently folded into each element of the Paris Agreement, as parties felt appropriate.[33]

The Paris Agreement reflects the hybridizing developments in its flexible provisions.[34] There are nuanced levels of differentiation which shift and change between each article of the Agreement. Its main characteristics are the non-binding,[35] bottom-up NDCs, which are combined with stricter, top-down procedural rules which introduce discipline into the process of submission of NDCs.[36] The provisions strike a balance between a bifurcated approach with reference to the UNFCCC and a spectrum of differentiated commitments with reference to provisions that are applicable to all.[37]

This nuanced approach applies to mitigation commitments as well. They are bifurcated in that developed countries—by and large the Annex I parties to the Kyoto Protocol—must produce NDCs that are, in analogy with the Protocol, absolute and economy-wide; and developing countries agree to enhance their mitigation commitments and work toward NDCs that are economy-wide.[38] These obligations all use 'should' language—a weaker form of obligation which contrasts with the stronger 'shall' language found in other places in the Agreement. Guidance and methodologies exist for the reporting requirements of absolute, economy-wide NDCs, borrowing from the experience of Annex I parties reporting under the Kyoto Protocol; but even here, developed countries can choose between single-year or multi-year targets (i.e. targets that apply to the final year or targets that cover a period of years). For example, in the second round of NDCs, submitted by the parties in December 2020, most developed countries have opted for economy-wide single-year targets to 2030 (with a few opting for 2025 or 2050).[39] For developing countries, it is unclear which methodologies will be adopted for the vast diversity of content of their NDCs, as the Paris Rulebook does not provide much guidance in this respect.[40] For example, some developing countries have submitted strategies, plans, and actions as components of their NDCs with no quantifiable information.[41] Differentiation thus applies to both the content of the contribution and the form of the commitment in terms of what the targets will look like.[42]

[33] Christina Voigt and Felipe Ferreira, 'Differentiation in the Paris Agreement', 6(1/2) *Climate Law* 58 (2016), 63.
[34] Daniel Bodansky, 'Reflections on the Paris Conference', *Opinio Juris,* 15 December 2015, <http://opiniojuris.org/2015/12/15/reflections-on-the-paris-conference/>.
[35] On one view, the United States could have agreed binding emission targets even in executive agreement, without Senate advice and consent to ratification: David A. Wirth, 'The International and Domestic Law of Climate Change: A Binding International Agreement Without the Senate or Congress?', 39(2) *Harvard Environmental Law Review* 515 (2015).
[36] Ibid.
[37] Voigt and Ferreira, supra note 33, at 63; Lavanya Rajamani and Jutta Brunnée, 'The Legality of Downgrading Nationally Determined Contributions under the Paris Agreement: Lessons from the US Disengagement', 29(3) *Journal of Environmental Law* 537 (2017).
[38] Paris Agreement, Article 4(4).
[39] UNFCCC Secretariat, *Nationally Determined Contributions Under the Paris Agreement*, FCCC/PA/CMA/2021/2 (2021).
[40] Meinhard Doelle, 'The Heart of the Paris Rulebook: Communicating NDCs and Accounting for Their Implementation', 9(1/2) *Climate Law* 3 (2019) 13.
[41] UNFCCC Secretariat, supra note 39.
[42] Voigt and Ferreira, supra note 33, 66.

NDCs are universal; they provide significant flexibility to countries to tailor their ambitions to their national priorities; and they must go through five-yearly cycles of review to progressively upgrade ambition.[43] Besides these commonalities, there is a huge diversity in what NDCs cover in terms of targeted contributions, sectors, and activities. Many NDCs submitted by developing countries are conditional on receiving finance, technology transfer, or capacity building.[44] The vast diversity of mitigation contributions is a direct consequence of the country-driven process of developing NDCs which was critical to the successful adoption of the Paris Agreement.[45] It also reflects the rushed nature of the development of the first round of NDCs, which were submitted on ratification of the Paris Agreement, and which largely reflected countries' INDCs.[46] In upgrading their NDCs, developing countries, in particular, will need to build expertise, gather data, align NDCs with existing national policies, and gain support for mitigation contributions from public and private actors.[47]

4. Learning from Marrakesh in the Rulebook Negotiations

Much of the public debate over the Article 6 portion of the Paris Rulebook has an eerily familiar ring to veterans of the Marrakesh Accord negotiations. Avoiding double-counting, assuring the integrity of the system and of individual trades under its auspices by reference to a sustainability metric, and the like, are all familiar themes. But the Rulebook is emerging within the framework of a very different regime, one that requires all parties to contribute mitigation measures, with multiple base years and metrics, some of which may not be quantifiable. The transition from the Kyoto Protocol regime, particularly the CDM's transition, is an additional challenge that did not face the negotiators of the Marrakesh Accords.

4.1. Political and Economic Obstacles in the Article 6 Negotiations

Article 6 establishes two main types of emission-trading mechanisms, based on voluntary cooperation. The first is found under Article 6(2)-(3) and is a market-based mechanism. It allows internationally traded mitigation outcomes (ITMOs) to be generated by one country and transferred to another to count towards the latter's NDC contribution. Paris Agreement parties can do this by linking their emission-trading systems, concluding a joint banking/credit approach, or by other forms of cooperation.[48]

[43] Paris Agreement, Article 4(3) and 4(9).
[44] W. P. Pauw, et al., 'Conditional Nationally Determined Contributions in the Paris Agreement: Foothold for Equity or Achilles heel?', 20(4) *Climate Policy* 468 (2020) 469 ('Of the 186 NDCs submitted to the UNFCCC at the time of writing, 136 are conditional on one or more kinds of support').
[45] Frauke Röser, et al., 'Ambition in the Making: Analysing the Preparation and Implementation Process of the Nationally Determined Contributions in the Paris Agreement', 20(4) *Climate Policy* 415 (2020), 416.
[46] Doelle, supra note 40, 15.
[47] Röser, et al., supra note 45, 416.
[48] Matthieu Wemaëre, 'Article 6 Voluntary Cooperation/NDCs', in *The Paris Agreement on Climate Change: A Commentary*, edited by Geert Van Calster and Leonie Reins (Cheltenham: Edward Elgar Publishing, 2021), 148-71.

This mechanism establishes a decentralized process, which was designed by states to provide flexibility to market participants.[49] However, the safeguards and limitations that some parties are suggesting to include in the Article 6 guidance would require a more centralized governance approach.[50] Article 6.2 uses a prescriptive 'shall'—that the mechanism shall promote sustainable development, environmental integrity, and transparency—and so some parties are insisting on environmental and sustainable development safeguards.[51] Conversely, many parties see the concept of sustainable development as nationally driven, and so resist a strict assessment of whether an ITMO contributes to sustainable development.[52] Some countries such as India and Saudi Arabia, are insisting on flexibility around the metrics of what counts in an ITMO, and on the ability of countries to rely on non-greenhouse-gas metrics, such as kilowatts of electricity produced.[53] Other countries have pushed back and requested a 'buffer registry' to convert these non-greenhouse-gas metrics into gas-based metrics, which would require a more centralized registry system.[54]

The second mechanism is found under Article 6(4)-6(7) and is referred to as the sustainable development mechanism. It is similar to the CDM, and designed as an apparent successor to it, except that all countries (not just developing ones) can host an activity.[55] Activities are defined broadly and can include projects, programmes, or policies.[56] The mechanism, which anticipates a more centralized process via a Supervising Body, is supposed to contribute to an overall mitigation in global emissions (OMGE), that is, not mere offsets between country A and country B. OMGE is only mentioned in Article 6(4), although there is a strong push to have it apply to the first mechanism, as well, by setting aside or cancelling a fixed number of credits to benefit the world's atmospheric concentration as a whole.[57]

The CDM has been a flash point both in the implementation of the Kyoto Protocol under the Marrakesh Accords and in the Article 6 Rulebook negotiations. It is well known that the CDM has been subject to near-universal criticism,[58] not least because of

[49] Asian Development Bank, *Decoding Article 6 of the Paris Agreement. Version II. December 2020* (ADB, 2020), 6, <www.adb.org/sites/default/files/publication/664051/article6-paris-agreement-v2.pdf>.
[50] Ibid.
[51] These parties include members of the AOSIS and the European Union. Strictly as a matter of public international law, this phraseology, self-evidently intended to amplify the vigor of the operative language, does not alter the non-binding character of the principles set out in the Rulebook. That is, notwithstanding the use of 'shall', the Rulebook, like the Marrakesh Accords, is non-binding.
[52] Asian Development Bank, supra note 49, 15.
[53] Ibid., 21.
[54] *Draft text on Matters relating to Article 6 of the Paris Agreement: Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, version 3 of 15 December 00:50 hrs*, Doc. DT.CMA2.i11a.v3, Annex, para. III.B.10.
[55] See *Draft Text on Matters Relating to Article 6 of the Paris Agreement: Guidance on cooperative approaches referred to in Article 6, paragraph 4, of the Paris Agreement, version 3 of 15 December 1:10 hrs*, Doc. DT.CMA2.i11b.v3, para. 7(g), proposing transition of activities from the CDM to the Article 6(4) mechanism.
[56] Wemaëre, supra note 48, para 6.37.
[57] Simon Evans and Josh Gabbatiss, 'COP25: Key Outcomes Agreed at the UN Climate Talks in Madrid', *Carbon Brief*, 15 December 2019, <www.carbonbrief.org/cop25-key-outcomes-agreed-at-the-un-climate-talks-in-madrid>.
[58] For instance, US Government Accountability Office, *Climate Change Issues: Options for Addressing Challenges to Carbon Offset Quality,* 2011, <www.gao.gov/assets/gao-11-345.pdf>; and Christina Voigt,

the difficulty in applying the but-for test of additionality and the mechanism's concentration of projects in the industrial sector and in China.[59] The Kyoto Protocol parties could have learnt more from the CDM's mistakes, or rather implemented fixes for the mistakes and loopholes they became aware of. A meaningful response requires allowing independent, neutral technical experts—appointed in their private capacities and fully insulated from pressures from stakeholders—to develop methodologies that achieve global mitigation outcomes. These and other technical issues could have been addressed, but the opportunity was missed.[60]

In the Article 6 negotiations, some states, such as India, China, and Brazil, are advocating for credits earned under the Kyoto Protocol to be transferred to the Article 6 mechanisms, effectively introducing hot air again into the trading system. They argue that these credits have been accepted in the UNFCCC system and are therefore durable and transferable. Vulnerable countries, such as members of AOSIS, are critical of attempts to introduce hot air.[61] States introduced progression over time into the ratchet mechanism of NDCs as a forward-looking principle, encapsulating the approach of 'no backsliding'.[62] The introduction of hot air would appear to contravene this principle. Many market participants, such as oil-and-gas companies, are watching the negotiations around the rules of Article 6 closely, of course, and support flexible, market-based approaches, through groups such as the International Emissions Trading Association. Undervalued credits would make it much cheaper for polluters to buy offsets.[63] This would replicate the mistakes of the Kyoto Protocol.

Underpinning these negotiation controversies is a debate about what an NDC actually is. The traditional interpretation, endorsed by the overwhelming majority of parties, is that an NDC is what has been pledged by a party.[64] But some parties interpret an NDC as the sum of actions a party takes in order to meet the pledge in the NDC, and so activities undertaken outside of those articulated in an NDC could be eligible for an ITMO.[65] This would apply to countries that list strategies and actions, as opposed to quantified targets, in their NDC. The approach is favoured by countries such as Brazil, Saudi Arabia, and India, which seek much more flexibility in the rules around Article 6, including permission for activities that fall outside their NDC to be eligible under the

'Is the Clean Development Mechanism Sustainable? Some Critical Aspects', 18(2) *Sustainable Development Law and Policy* 15 (2008), 18 ('The reality of CDM projects has so far been quite different from their initial conception ... almost all proposed and approved projects to date have primarily focused on maximizing the generation of CERs instead of focusing on sustainable development').

[59] See Bruce Rich, 'An International Regime in Crisis', *Environmental Forum*, May/June 2011, 20: (criticizing HFC substitution projects in China, and concluding that 'The The Kyoto Protocol's Clean Development Mechanism is fundamentally flawed').

[60] In a development that some might regard as troubling in light of unfinished business in redirecting the CDM, the ICAO Council in March 2020 identified the CDM as one of six approved offset schemes qualifying under its Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

[61] Evans and Gabbatiss, supra note 57.

[62] Rajamani and Brunnée, supra note 37, 545.

[63] Abhilasha Fullonton, 'India's position on Article 6 at COP 25 Explained', *Sustainability Outlook*, 16 January 2020, <http://sustainabilityoutlook.in/content/india%E2%80%99s-position-article-6-cop25-explained-766329>.

[64] Asian Development Bank, supra note 49, 13.

[65] Ibid. See also Wirth, supra note 35, at 561-4 (analysing legal consequences of NDCs' non-binding character).

Article 6(2) mechanism.[66] The sheer variety of NDCs in terms of their scope, coverage of gases and sectors, metrics, and timeframes makes any corresponding adjustments almost impossible between single-year and multi-year NDCs.[67]

The oft-lauded flexibility of the Paris Agreement, therefore, has provided rather too much flexibility for reaching agreement on ambitious Article 6 rules around carbon trading. As with the Marrakesh negotiations, the sheer complexity of these mechanisms, and the options available to parties, or demanded by them, makes consensus extremely difficult. Many large developing countries and some EITs are pushing for as much flexibility as possible under Article 6 in order to reduce the contributions pledged in their NDCs. Lax Article 6 rules may be an indirect way of subverting the 'name and shame' approach of the Paris Agreement. This may stem from some leftover reluctance by some developing countries at the move away from the strict, binary differentiation which characterized the Kyoto Protocol. It is also possible that countries are resisting any discipline being applied to carbon markets through multilaterally agreed rules.

4.2. Paris Rulebook v. Marrakesh Accords

The negotiations over the implementation of Article 6 of the Paris Agreement, as discussed in the previous section, bear a resemblance to those at COP 6 bis and COP 7 leading to the Marrakesh Accords.[68] For example, there is concern about over-reliance on trading to achieve NDC goals, reminiscent of the earlier debates on hot air. One might have expected a 'maturation' of the UN climate regime from the Convention, through the Kyoto Protocol, the Marrakesh Accords, the Paris Agreement, and the Paris Rulebook.[69] However, a comparison of the two endpoints suggests a startling conclusion: if anything, the debate over the 'markets' text of the Paris Rulebook demonstrates considerable backtracking compared with Marrakesh.

Thus there is still debate over the very purpose of Article 6 and the extent to which trades should facilitate OMGE. Avoiding double-counting is a persistent issue in the implementation of Article 6, a question that barely arose during the negotiation of the Marrakesh Accords. Creative accounting that might produce such a result was assumed by essentially all parties to be precluded by the elementary good-practice standards that form the foundation of the Accords. More fundamentally, what meaning does a right to emit have against the background of a non-binding NDC, in practice unenforceable under either public international or domestic law? And how could such products be traded with confidence, given their imprecise definition? The Rulebook negotiations are further hobbled by the need to address transitional issues, such as credits carried over from the CDM.

[66] Wemaëre, supra note 48, para 6.21.
[67] Ibid., para 6.22.
[68] Jean-Charles Hourcade and Frédéric Ghersi, 'The Economics of a Lost Deal: Kyoto – The Hague – Marrakesh', 23(3) *Energy Journal* 1 (2002) 3 ('the Marrakesh accord, the new benchmark of climate policy discussions, leaves unresolved the key structural questions of the climate policy regime').
[69] See Julia Kreienkamp, 'The Long Road to Paris: The History of the Global Climate Change Regime', UCL Global Governance Institute, 2019, <www.ucl.ac.uk/global-governance/news/2019/nov/long-road-paris-history-global-climate-change-regime>.

In the two decades since Marrakesh, the climate regime has entirely appropriately come to encompass many related issues that were not front-and-center in the Kyoto Protocol's implementation, such as public participation on the part of intended beneficiaries in planning projects, and social issues such as gender equity, the rights of indigenous peoples, and disparate impacts on communities of color, marginalized groups, and the poor. The potential social and ecological consequences of adaptation measures and mitigation in the form of afforestation and reforestation are also much better appreciated than two decades ago. It is now widely accepted that addressing challenges to climate integrity necessarily engages these concerns, but superimposing them on the markets undoubtedly adds an additional layer of complexity.

While facilitating emission reductions through the flexibility mechanisms certainly was a concern in drafting the Marrakesh Rules, the negotiators had the benefit of working with the Kyoto Protocol, whose very architecture not only presumed but affirmatively facilitated achieving emission reductions through trades in emission rights. The mechanisms were conceptualized as ancillary to the Annex I parties' emission-reduction obligations, which were understood to be the principal workhorse in the Protocol's regulatory design. By contrast, the outcome of the Article 6 implementation talks is being characterized as 'make or break' for the Paris Agreement, particularly if robust rules are not agreed. From the Protocol's point of view, this is clearly a situation of the tail wagging the dog. The Paris Agreement is not a trade agreement in the sense of the GATT/WTO suite of rules, or even an agreement regulating trade in environmentally relevant products, such as the Basel and Rotterdam Conventions or CITES. Rather, it is an organic entity devoted first and foremost to commons management, more closely analogous to the Montreal Protocol, which—tellingly—allows for strictly limited trading and offsets in a manner designed to further its remedial purpose.

The Kyoto Protocol's tradable emissions rights—AAUs, ERUs, CERs, and RMUs—are all fundamentally commensurable, in the sense of articulating the same metrics. The base year for each of the Protocol's emission-reduction obligations is 1990 (with a few exceptions for EITs). The targets are similarly uniform, and are built into tradable emission rights, fully transparent and knowable. The Protocol was designed from its inception to accommodate the flexibility mechanisms as an integral component of the scheme. The Marrakesh Rules were fundamentally targeted at ensuring the integrity of trades. Hence, the particular attention to sinks—given the difficulties in identifying reliable measurement methodologies—and the CDM as inherently involving leakage from the closed system of Annex I parties. Certain substantive choices, such as the treatment of nuclear power installations, were hard-fought, but peripheral to the basic task of assuring the integrity of counting, and accounting for, emissions.

Retooling the regime toward the Paris Agreement's largely voluntary, bottom-up architecture undercut many of the Protocol's attributes that in principle facilitated the environmental integrity of trading. Base years are no longer uniform, nor are endpoints. Many non-Annex I NDCs are not even framed in terms that are measurable or countable. While some studies have anticipated the impacts and environmental integrity of different approaches,[70] it is unclear whether parties will heed these studies in the

[70] Lambert Schneider and Anne Siemons, 'Averaging or Multi-year Accounting? Implications for

negotiations on Article 6. By comparison with emission rights under the Protocol, the rights being traded under the Agreement are likely incommensurable, in the sense of being established against a background of a multiplicity of metrics.

The history of the Paris Rulebook's negotiations also highlights a wide divergence in goals and purposes compared with the Marrakesh Accords. At COP 24 in 2018, virtually all the other components of the Paris Rulebook were agreed to. They include texts on transparency, NDC accounting, national inventories, reporting, and compliance.[71] Article 6 was left hanging, as something of a self-contained, freestanding mini-negotiation. The fact that the ITMO portion of the Paris Agreement is severable is thrown into sharp relief by the fact that it has in fact been severed and placed in a kind of multilateral purgatory. Meanwhile, a multiplicity of interests have been circling the detached limb, attempting to influence the outcome while the stakes rise ever higher.

Decoupling such questions as reporting, accounting, and compliance from the rules for implementing the mechanisms of Kyoto Protocol's Articles 6, 12, and 17 would have been well-nigh inconceivable; an alteration to any one portion of the highly interconnected structure of the Marrakesh Accords would have invited reconsideration of interdependent passages elsewhere. The refrain in multilateral agreements, 'Nothing is agreed until everything is agreed', was particularly apt in Marrakesh. By contrast with the Accords' substantive precision, the Paris Rulebook is painted with a broader brush and, particularly with respect to the Article 6(4) mechanism, evinces a greater reliance on the institutional processes accompanying the creation of credits. For example, neither sinks nor nuclear power installations are identified by name in the current Article 6 drafts. The negotiators seem to have 'agreed to disagree', in effect kicking the can down the road to the subsequent phase of institutional implementation.

The 'markets' text of the Paris Rulebook has suffered from the Paris Agreement's very malleability, with wildly diverse constituencies—states with potentially competing national interests, NGOs, private industry, and so forth—projecting their needs onto the text. Private, for-profit business interests are literally and figuratively all over the map, including the oil-and-gas firms, renewable-energy companies, chemicals manufacturers, producers of cars, trucks, and buses, and many sub-permutations of them, are only the most obvious players. Completing the Marrakesh Accords seemed close to an overwhelming challenge—the most complicated environmental negotiation to that date. Yet, by comparison with the current situation going into the Glasgow COP, the earlier drafters had the luxury of a reasonably crisp mandate and an underlying international treaty that had already completed much of the job.

5. Conclusion

The Marrakesh Accords cast a long and gloomy shadow over the ongoing Article 6 negotiations. The same issues and obstacles are present, such as the desire to fold hot air into calculations, but with an added layer of immense—and perhaps insurmountable—

Environmental Integrity of Carbon Markets under Article 6 of the Paris Agreement', Institute for Applied Ecology, 2021, <https://ercst.org/wp-content/uploads/2021/01/Oko.jpg>.

[71] See Jolene Lin and Alexander Zahar (eds.), Special Issue on the Paris Rulebook, 9(1/2) *Climate Law* (2019).

analytical complexity as a matter of principle: the flexibility of the Paris Agreement which allows, and encourages, a huge diversity of NDCs. This flexibility was originally designed to ensure that all parties, developed and developing, shared responsibility and commitments for emission reductions. But it largely papered over significant divisions, which are alive and well, and actively resurfacing in the Article 6 negotiations.

Large developing countries are seeking to 'claw back' conceded responsibilities by inserting flexibility into the rules around Article 6. Many developed countries are doing the same. Waiting in the wings, and advocating for such flexibility, are large private entities who want to publicly promise climate ambition while benefiting from cheap, flexible offsets traded through unaccountable markets. The similarities in the problems facing negotiators of the Marrakesh Accords and Article 6 is disappointing: we should have come much farther than we have, considering the dire climatic circumstances we now find ourselves in. What helped to resolve the complexity in Marrakesh was the solid treaty background against which the rules were negotiated. Negotiators now have a less certain treaty landscape to navigate.

The Article 6 negotiations illustrate a fundamental conundrum of the climate regime. The Paris Agreement would not have been successfully concluded without providing states with flexibility, but this flexibility tends to undermine the promise and ambition of the global warming limitation goals within it, by leading to lax rules; and it makes it easy to lose sight of the remedial goal of the Paris Agreement and the fundamental challenge of commons management, namely that all states must accept concrete near-term burdens in return for visionary and distant benefits.

The IPCC continues to remind us that time is short. The 'markets' text of the Paris Agreement should prevent skimming from trades that fail to promote sustainability or, worse, undermine that goal. The Article 6 text, cloaked in abstruse language and a diplomatic setting that seems incomprehensible to the uninitiated, may indeed end up being 'make or break' in the sense of inviting leakage that could end up undermining the Paris Agreement. The oft-maligned world of the Kyoto Protocol and the Marrakesh Accords does not seem so bad in hindsight.